

Toward Ethical Treatment of Animals in Hawai'i's Natural Areas¹

CHARLES P. STONE²

ABSTRACT: Human alienation from nature is evidenced by minimal understanding of interrelationships in the wild and an emphasis on individual wild animals. Different viewpoints (utilitarian, biocentric, and theocentric) about the natural world and the place of humans in it color ideas about management of natural areas and the species therein. Decisions about nature should consider a complex of *human* values including the economic, aesthetic, spiritual, ecological, and humane, along with a preservation ethic for the future. Control of introduced, or alien, animals in Hawai'i, where endangerment and extinction rates of native species are among the highest in the world, and where alien species cause severe degradation and disappearance of near-natural communities, has recently become controversial as a result of confrontational activities by animal rights activists. However, people who "speak for" animals in the world involve a wide variety of groups, including natural resource managers, hunters and fishers, scientists, agriculturists, conservationists, and humane and animal rights groups. An ethical system for wild animals must make good-faith efforts to protect all human values. A good-faith approach to conflict presumes that most groups have codes of right and wrong (ethics), even though some may not be as completely developed as others. We need to "outgrow" narrow views of nature by better understanding human relationships to it through meaningful participation (hunting, management, scientific study, observation, etc.). Actions and nonactions must be governed by a holistic and flexible ethic practically applied to different conflict situations.

ALDO LEOPOLD, THE FOUNDER of wildlife management in the United States, suggested that "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold 1962 [1949]: 224–225). Leopold's land ethic did not preclude use of the land for human purposes, but was concerned more with an attitude that would affirm the importance of allowing nature to exist (Moline 1986, Callicott 1990), for present and future human well-being as well as for its own sake. He was also concerned with changing the status of humans from "conqueror" to "member" of the land community (Gawlick 1992). We need to integrate many

considerations in the process of making decisions about natural systems and their components. However, we still suffer slow progress in search of a widely accepted "conservation ethic." Such an ethic should be, as Leopold recognized, an extension of social ethics, neither overriding nor replacing them (Callicott 1987).

In Hawai'i, although about 15% of the land is legally "protected" from development (Holt 1989), species loss continues at a staggering rate, and funding for management and research is terribly inadequate to the task at hand. Despite heroic efforts to educate, manage, learn, and raise funding by a number of individuals and groups in Hawai'i, much of the public remains ignorant of, or resistant to, a conservation ethic that would truly consider preservation of biological diversity in decisions about economic growth, job opportunities, or a perceived increased standard of living.

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² Research Scientist, National Park Service, Hawai'i Volcanoes National Park, P.O. Box 52, Hawai'i National Park, Hawai'i 96718.

The Extinction Crisis

More native species have been eliminated from Hawai'i than anywhere else in the United States: an estimated 60% of the flora is extinct or threatened with extinction; 50% of the 140 species of native birds known historically or from the fossil record are believed extinct, and an additional 30 species, 41% of all listed birds in the United States, are endangered. Some 75% of the nation's historically documented plant and bird extinctions have occurred in the Islands. An estimated 90% of dry forest, 61% of moist forest, and 42% of wet forest has been lost (Hawaii State Department of Land and Natural Resources, U.S. Fish and Wildlife Service, and The Nature Conservancy of Hawaii 1991), with much of what remains degraded through species loss, alien species invasions, and forest fragmentation. Small populations and single-island or even single-area endemism make many native species vulnerable to catastrophic events, stochastic processes, and the deteriorating effects of human-produced changes (Figure 1), particularly since these changes occur at rates that are far too rapid for biological adjustments.

For island ecosystems, alien species are an extremely important component of the problem of deterioration (Atkinson 1989, Diamond 1989). The flood of alien species in Hawai'i has accelerated native species loss and increasingly homogenized the landscape, so that much of it now is dominated by species spread by humans to other tropical and subtropical areas around the world. Feral pigs, goats, cattle, and sheep have degraded, fragmented, and eliminated large areas from sea level to timberline (Cuddihy and Stone 1990). Rats and mongooses; introduced insects, mollusks, and diseases; and some 86 species of invasive alien plants have caused ecosystem changes that are less noticeable than those caused by ungulates, but are perhaps more pervasive. In Hawai'i, conservationists are very aware of what is native and what is alien; children and adults are actively taught that invasive aliens are less valuable than natives and are in conflict with the preservation of native species and communities (Stone 1992a). Yet, natural area managers in Hawai'i are involved in a serious controversy with animal rights interests over the ethics of controlling mammals that eliminate native plants and animals, degrading

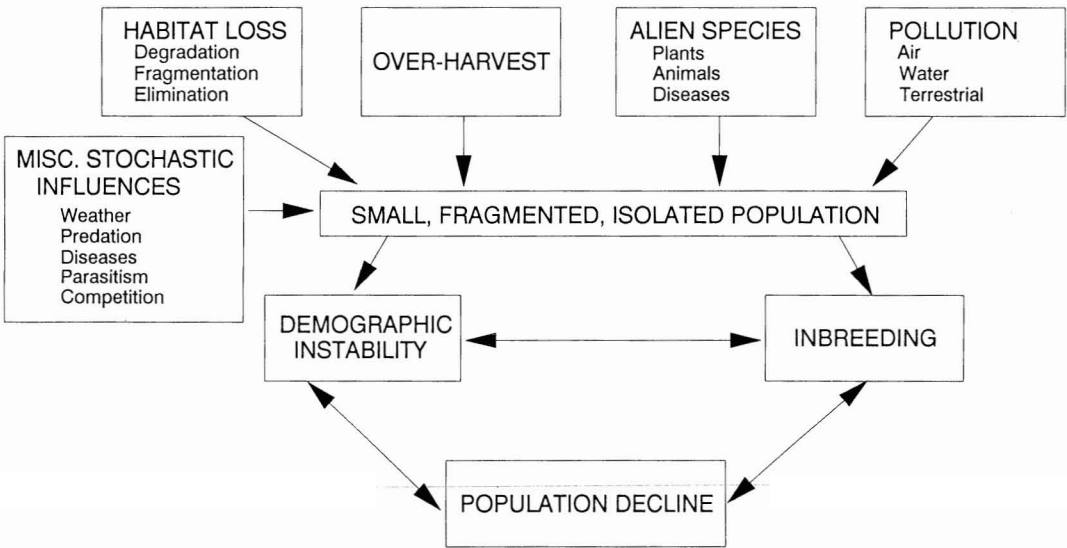


FIGURE 1. Effects of different life history, environmental, and threat factors on single populations (modified from Captive Breeding Specialist Group [International Union for Conservation of Nature and Natural Resources] 1992).

and destroying the biological communities they compose.

Worldviews

One's viewpoint toward the natural world colors the value one places upon individual nonhuman lives, species preservation, and biological community protection. Most people in Western societies have an anthropocentric, utilitarian, or instrumental orientation toward nature (Weston 1985, Katz 1987). Even natural areas are "set aside"; we can choose to do this for our own purposes or not to do this (McNeely and Miller 1984). Because we think we stand outside nature, we can also choose to save or destroy a species; it depends upon how much humans value the species in relation to other values. It is usually considered more important to preserve "sentient" birds and mammals than lower vertebrates or invertebrates, as has certainly been the case in implementing the U.S. Endangered Species Act. In the utilitarian view, humans are sometimes considered part of nature, but only in the sense that all technology, including cities, is "human habitat."

A second viewpoint is that nature has values that are intrinsic, having nothing to do with human use. This biocentric view of nature suggests that survival of communities depends upon all components, even those of no economic consequence and those that most people don't know about (Taylor 1986). The biocentric view sometimes attributes "rights" to plants and animals in an attempt to sanctify and protect individual nonhuman life. At the extreme, the rights of an animal are considered equivalent to those of humans. Like the utilitarian view, biocentrism does not really preclude the idea that humans are outside nature; but to biocentrists more things are considered off-limits to interference from humans. An antimanagement or "preservation without interference" attitude is often characteristic.

The western theocentric view of nature suggests that nature in its diversity and wonder glorifies God. Nature is to be cared for by humans (Yahwist tradition in the biblical book Genesis) or managed well (priestly tra-

dition in Genesis) by humans for human purposes, and for its intrinsic value as a creation of God (Callicott 1986). Humans are considered first among all creation in importance, because God has made us most in his image (with free will, self-sending love, self-awareness, an ability to be spiritual and esthetic, etc.). But other creatures are "companions" united with us in our existence (Himes and Himes 1991) and in covenant with the Creator. Humans, as God's caretakers, must treat nature as God treats us—intentionally giving it value by our concern and care, despite lack of apparent meaningful or conscious reciprocity on the part of nature. We are called to preserve nature as part of our existence and because it is God's loving creation (Thomas 1983). We relate to nature by manipulating it within limits and by appreciating (including understanding and valuing) it (Macquarrie 1977). As with the other worldviews, the theocentric approach unfortunately has often considered humans separate from nature, at least until recently; perceived human needs have not usually been integrated with concern for nature.

Alienation

It has been said that the stripping of earthly resources really results from the stripping of meaning from everything that is not technological (Evernden 1985). Some believe that we are losing the capacity to really participate in life. In one sense, we humans exist in environments in which we did not evolve; we are ecologically homeless. In another sense, we direct our own evolution. Berry (1988:90) stated that the human community has become "alienated from the larger dynamics of the planet and thereby has lost its own meaning."

Leopold (1962 [1949]:129) said long ago that we need to begin "thinking like a mountain." In today's jargon, we need to find a new story to inhabit with respect to nature (Evernden 1985)—a suitable myth that relates humans to a larger scheme of things that will enable humans and surroundings to survive the onslaught of increased human populations, technology, and aspirations. I would like to examine just a

small part of the problem of our alienation from nature—the way that humans relate to animals in the wild.

Individual Animals Versus Groups

A number of cultural and psychological variables in America lead to our alienation from nature and to a rather simplistic approach to conservation of animals. Most people place more emphasis on obvious human use of animals or the welfare of individual animals than on populations, species, or the communities in which animals live. Some possible reasons for this are as follows:

1. Americans tend to emphasize individual human freedoms, rights, and self-esteem rather than values that transcend their own experiences (Clement 1986). Legal and technological approaches to everything from birth to death (and including sex) have resulted in objectification, rationalization, and manipulation of most human processes, with consequent loss of connections and spiritual values (Little 1992). People assert more control over their lives and deaths than ever before. Individual humans are encouraged to “be all that you can be.” Individual animals are often treated like individual humans, and groups of animals are thought of in terms of “minimum viable populations.”

2. People have psychological preferences for individualizable animals (Clement 1986). These include animals that are like us, “cute,” and especially young or helpless animals. So-called heroic species such as eagles, tigers, and koalas, which tend to be perceived as individuals in zoos or elsewhere or that have been domesticated by humans (dogs, cats, elephants, etc.), are preferred. Psychological dislikes for invertebrates, reptiles, and some other groups, as with our preferences, may be colored by cultural factors (the snake in the Garden of Eden, the big bad wolf, etc.). The roles of animals in ecological settings and their connections with other plants and animals are of little importance psychologically.

3. Education is viewed as training for jobs rather than education in the broad sense (Clement 1986). If something doesn't seem useful, it is not taught or not learned. Yet

public education, according to many, is “failing to provide the essential knowledge needed for rational understanding of the problems we face as individuals and as a nation” (Bowers 1992:101). Esthetic and spiritual values are underemphasized. A sense of giftedness and mystery has given way to the desire to master human life. Complex thinking and problem-solving are not stressed sufficiently in the educational process to allow most people to grasp ecological relationships or complex problems in conservation biology. Wilderness is an unknown to be feared and/or conquered. It doesn't fit meaningfully into a philosophical or experiential base, for many.

4. People have a sense of helplessness about larger and more complex systems and issues such as the military complex, government, economics, and political processes (Clement 1986). The helplessness produces groups of spectators, victims, critics, and people waiting for assistance with the problems of life.

5. The sense of human community is being lost as a result of urbanization, job mobility, family breakdowns, media coverage, technology, and the commoditization of life (Clement 1986). With less sense of human community, there is less understanding of natural communities and the functions of components therein. Important distinctions between natural and heavily modified systems, native and nonnative species, and natural and artificial biodiversity are dependent upon community values of place, continuity, process, and history. If these are minimized in human communities, it is hard to value natural communities.

6. Something becomes important only when it directly and strongly impinges on stimulus-worn and resistant human sensory reception systems. Most ecological values do not have this capability, but individual animals for which we have sympathy often do. The plight of an individual human usually arouses more sympathy than that of large numbers of humans in danger; it is the same with wild animals.

7. Something becomes important when it is truly unique to the experience or so rare that danger is perceived. The claim that

something is unique is true but common. When the danger of extinction has been noticed and/or when a species has been reduced to a few individuals, a high priority may be placed upon "doing something." On the other hand, many commodities qualify and another will soon come along.

Ethics of Managing Animals

Ethics has been defined as a system or code of morals (right and wrong) of a particular person, religion, group, or profession. A person who is ethical conforms with the code. Any group that purports to speak ethically for animals can do so through force of law (de jure) or through defining just what group is represented. Different groups can speak for animals in different ways, ranging from those charged by law to protect and manage them and the biological communities they inhabit, to those who do not wish to see individual animals mistreated or killed. Good ethical systems will attempt to prioritize and reconcile values, while realizing that no general ethical system will apply to all particular situations. Values are human constructs that sometimes drive protection and management schemes in different and conflicting directions.

An ethical system for managing wild animals must acknowledge several levels, beginning with concern for biotic communities. Although the choice of whether to value biotic communities more than individual species varies with the situation, community preservation, protection, and management are preferable to individual species management in noncrisis situations for a number of reasons (Table 1). Obviously, both species and community approaches are often needed. But a reasonable initial ethic for wild animals would consider long-term preservation of communities.

A second ethical level of consideration for wild animals is expressed in the Safe Minimum Standard of Conservation (SMS): irreplaceable resources such as species should be saved unless human social costs are "unacceptably large" (Norton 1986b). The assumption is that every species is valuable to

TABLE 1

REASONS FOR EMPHASIZING COMMUNITY PRESERVATION, PROTECTION, AND MANAGEMENT*

1. Lack of knowledge means usually we don't know enough about individual species to preserve them. Species most likely to fulfill needs in undisturbed communities.
2. Communities and species have instrumental (utilitarian) if not intrinsic value. Communities preserve both. Philosophical debate need not affect managerial choices.
3. Preservation of communities has positive side effects for all species within them. System of preserved areas may prevent population declines leading to crisis. Megaspaces foster public support and preserve many species in situ in the process.
4. Ecosystem approach focuses on long-range problem. Highly managed ex situ situations are expensive, short-range, and likely not to solve problem.
5. Species are really products of and dependent upon communities. Without communities, species are more specimens than species.
6. Ecosystem preservation avoids phylogenetic-scale triage problems.

Adapted from Norton (1986a).

* Different strategies are necessary in different situations. In a crisis situation, the individual species strategy is appropriate. However, ecosystem protection is preferable in noncrisis situations.

humans, although not necessarily equally so. If social costs override preservation, "the burden of proof always rests on those who would degrade a resource or destroy a species" (Norton 1991:153). Every extinction of species or community is really a kind of superkilling, destroying birth as well as death. Superkilling should have superjustification (Rolston 1991). There are a number of utilitarian reasons for saving species (Table 2).

A third level of ethical concern is the species population. Populations are necessary to preserve genetic diversity of species; individual populations may, in fact, become species. Populations in different areas are important in safeguarding against stochastic processes leading to extinction of single small populations of a species—a common occurrence in many parts of the world, including Hawai'i. Preservation of gene pools unique to populations also has a high priority, especially where few small populations exist. We obviously cannot preserve individuals without

TABLE 2

UTILITARIAN REASONS FOR SPECIES CONSERVATION

1. Every species saved provides opportunity for new species to emerge and serve humans directly or indirectly by supporting other species.
2. Every species lost creates further loss through interdependency, extinction cascades, and lost opportunity for new species.
3. Each extinction has a small probability of leading to ecological catastrophe, eventual loss of human utility, and eventual human extinction.
4. The most extinction-prone species are those likely to be most useful to humans (high trophic levels, large, rare, specialized, mutualistic, from high-diversity systems).
5. Humans derive the most values—economic, commercial, aesthetic—from areas of great total diversity. Complex systems have greatest regenerative value because they share resources necessary to regenerate abused land most efficiently.

Adapted from Norton (1986b).

an ethic to preserve populations and gene pools.

A fourth level of ethical consideration for animals in the wild is the individual. Most of the existing ethical standards for individual animals apply to laboratory animal research and are mediated by institutional Animal Care and Use Committees (ACUCs). But individual animals are also studied, handled, and killed in research, management, or control programs in the wild. Recently, the Scientists' Center for Animal Welfare (1988) summarized research guidelines that address some of the problems of working with animals under field conditions. These guidelines are taken from guidelines for humane research drawn up by professional vertebrate societies for different taxonomic groups (birds, mammals, amphibians and reptiles, and fish) and deal directly with problems of field workers. They recognize the difficulty of applying laboratory standards in field situations, taxonomic and physiological variables, the importance of judgments of experienced field investigators, and the need for research on humane research techniques and pain. Also considered are difficulties in treating different taxa with the same standards of humanness, conflicts that emerge in protecting

some animals or their habitats from other animals, and the need to consider the welfare of all animals in a population. The authors of the report stated (1988:17) that "On the whole, field investigators have a more global view of animal welfare" [than laboratory workers].

Animal Rights and Wrongs

Do animals have rights to life, liberty, and even the pursuit of happiness? Does a tree have a right not to be made into furniture? Do humans have the moral obligation to avoid killing, stressing, boring, or making uncomfortable other forms of life? Are the human obligations to all life forms equal? Are distinctions in this regard drawn on the principle of similarity to humanness? Should grizzly bears respect human-declared rights to human life?

I believe that the argument for inalienable or a priori animal "rights" breaks down somewhere in this line of questioning. Rights are attributable to beings with interests and values that have desires and goals. Such "moral agents" need to be mutually able to respect each other's values. The human responsibility for nonhumans is not generally based on rights in the human sense, but on value complexes. For example, some species such as migratory birds and endangered species are protected by law because of their value to humans. Yet when protection conflicts with other needs or desires of humans, hunting season for waterfowl opens or compromises are sought. A grizzly bear protected by the Endangered Species Act is destroyed if it kills people. Protection of a species may also conflict with other values such as unmodified ecological succession, nutrient cycles, and natural selection; the needs of other organisms in the same community with the protected species; and the elimination of individual plants and animals of other species.

A Hawaiian example of conflicting values is the effect of introduced or alien feral pigs in natural areas, which compromises other values related to native Hawaiian species (Stone 1985, Stone and Anderson 1988). Feral pigs cannot be tolerated where natural

area management is the goal, because they are not natural (i.e., part of an integrated community of plants and animals that have evolved together). Most authorities in Hawai'i agree that conservation biologists "should be as proficient at eradicating exotic species as they are at saving endangered species" (Temple 1990:113), especially where aliens are invasive and capable of degrading and destroying entire communities of native species.

In an attempt to speak for the welfare of nonhuman animals, species, or even communities, we make matters worse if we do not try to understand the connections and integrity of biotic communities. We must realize that we speak as humans; this is true no matter how much we know. Nevertheless, we must attempt to consider a complex of values, including those for the future, before decisions in particular situations. This is not to deny intrinsic value, worth, or even "interests" of individual animals, species, or communities—only to say that many values must be considered together. Inalienable "rights" are few and far between, even for individual humans. In fact, the whole language of "rights," although useful in some conditions, has disadvantages because it tends to emphasize the absolute, the cosmopolitan, and the individual (Cobb 1989). The rights argument is primarily emotional and biased toward higher life forms (Causey 1989). Both humans and other animals live in community; humans must consider the welfare of other humans and all other organisms before acting in a narrow or emotional context to protect rights of specific individuals.

In Hawai'i, equal value cannot be given to alien and native animals where one is disruptive of, and one is an intrinsic component of, the natural communities that agencies and organizations are charged to protect. Focusing only on current and simplistic individual animal or human rights perpetuates the idea that we humans can remain outside nature, satisfying our own current needs (including sympathy), without really trying to understand what effects we are having by our actions and inactions. A simplistic ethic that gives supreme value to individual lives of

alien animals a priori does not really encompass problems inherent in the uses that humans make of animals, the different values given to different taxa, and numerous conflicts that we cause among values apparent all around us. Thus, such an ethic is both morally and biologically immature. The strict animal rights approach ignores ecological reality, brooks no compromise, is not in harmony with what occurs in nature, and does not consider well the present and future needs of people and natural communities. And humans remain alienated from nature and its workings through acceptance of the ethic, instead of working to become more in touch and in tune.

Hunting and Fishing

Hunting and fishing can have much to offer in the sense of truly participating in and understanding nature (Causey 1989). Ethical hunting and fishing require that humans understand the habits and connections of the quarry in an ecological setting. The preparation and the "chase" can be as of old, part of a cultural and species heritage once vital to humans (Ortega y Gasset 1985 [1942]). The kill can be a product of the hunting or fishing expedition, rather than a specific goal. The goal should be the spiritual and cultural experience achieved. The need for meat usually need not be the driving force for hunting or fishing. The ethical hunter or fisher has truly ambiguous feelings at the kill—a mixed respect for the quarry, sorrow at death, increased self-esteem at the end of the chase, and regret that the experience is done (Ortega y Gasset 1985 [1942]). The animal is considered a real part of the world in which the hunter lives, rather than a disconnected entity (Little 1992). The recent popular American films *A River Runs Through It* and *The Last of the Mohicans* (opening scene) manifest an ethic that still has value for many people today.

Causey (1989) considered hunting and fishing ethical because they contribute to human understanding of life and death in nature. Vitali (1990) believed they are ethical because they exercise and perpetuate natural

(fundamental?) human skills—to many, a sufficient argument that offsets the humane killing of individual animals. Hunters and fishers also contribute considerable revenue to the preservation of wild areas, a plus for other users and the plants and animals therein. Hunting in subsistence native human cultures has spiritual validity and is supported by most people on that basis; thus, failing to allow spiritual and cultural motives for humans other than those in subsistence cultures seems inconsistent (Causey 1989). Hunting and fishing can also be considered ethical when they replace other mortality for managed species, with small positive or negative effects on community balance.

Hunting and fishing at their best can produce a sense of community integrity and connectedness of parts that is vital if humans are really to understand, value, and perpetuate nature. Hunters and fishers actually contribute to ecological processes (life and death) upon which communities are based (Vitali 1990). In addition, those directly participating in nature soon realize that their ignorance about it will always remain. Increased experience deepens the sense of respect as well, adding to the sense that something not under human control is involved. Like hunting and fishing, ecological research and management, nature photography and study, and other activities can serve as ways for humans to reduce alienation from nature through respect, humility, understanding, and active, knowledgeable involvement that does not compromise natural processes or affect community composition.

As with other human endeavors, hunting and fishing are not always done ethically. According to Rolston (1988), those who kill just for fun are obviously at least morally immature. Causey (1989) considered game farms “wooded shooting galleries” that cannot be considered hunting places, and are the moral equivalent of brothels. Avid meat or trophy hunters can treat animals as commodities, rather than lifeforms to be respected and valued in context, and can also be considered less than adequately involved in understanding nature (Causey 1989). Such

“hunting” and “fishing” borders on the senseless and is difficult to defend ethically. The proportion of hunters and fishers who fall in these categories is for sociologists to determine and management agencies to reduce, if a consistently higher moral plane is to be achieved.

The Problem of Individual Deaths

From the standpoint of saving individual nonhuman lives in Hawaiian natural areas, it can be argued that removal of a relatively few alien animals of a few species in no danger of extinction will save countless individual native animals of various species, many of which are in danger of disappearing from the face of the earth. The deaths of native species are not necessarily “humane,” as witnessed by the emaciation and weak condition attained by birds suffering from introduced avian malaria and pox. How many and how badly individuals of various native species die is not often factored into the ethical equation.

Similarly, if the total number of animals dying is a factor in considerations of overall humaneness, which I think it should be, fewer animals efficiently killed over a short time span would seem to be preferable to much greater numbers killed by less efficient but supposedly gentler methods. Because humans really know very little about stress, suffering, and pain in different species of wild animals (Stone 1992b), the argument of total animals killed seems all the more persuasive. The National Park Service (Stone 1992c; B. Harry, pers. comm., October 1993) and other agencies in Hawai'i argue that fencing to remove feral pigs from an area prevents ingress, thus minimizing numbers of pigs to be killed. However, the animals must be removed rapidly or production of new animals soon replaces numbers of animals removed in control programs. More research on suffering experienced by animals dying in different ways is definitely needed and would seem to be well within the purview of well-funded and deeply concerned animal rights groups, if further suffering is to be minimized.

Whose Ethics Should We Choose?

Which ethical concerns for wild animals should have priority? Both the ethics of animal rights and the land ethic are appealing, but holding both simultaneously is difficult (Loftin 1992). It could be argued that an ethical hierarchy logically can be established in which the highest value is the ecosystem or community and the lowest is the individual animal. Individuals in the wild depend on populations, which depend on species, which depend on communities for their continued survival. Unlike the laboratory situation, individual wild animals do not stand alone. They depend on other animals and plants and ecosystem integrity.

I think that an advanced ethical system should consider the complexities involved as fully as possible. It should recognize a human duty to nonhuman objects that goes beyond felt experience. An environmental ethic should work toward minimal conflicts among all values of concern. The ethic of nature differs from that of culture. "There are no rights in the wild, and nature is indifferent to the welfare of particular animals" (Rolston 1991:75). Yet, it is not ethical for humans to kill animals any more cruelly than necessary to protect other values at risk or to gain the knowledge decreed vital to human use. Neither is it ethical to allow animals introduced by humans to destroy habitats of native animals (and plants) or otherwise to put native species at risk, unless other human social costs are unacceptably large. "To allow the extinction of animal species is ecologically, economically, and ethically unsound" (Senator Tunney in Varner 1987:63). Where protection of ecosystems and individual animals collide, other social and legal values and future considerations may be stressed in making the most ethical decision. Again, ethics are group codes; the more knowledgeable and holistic the group addressing wild animal welfare, the fewer real ethical conflicts are likely to occur.

Still, the continued existence of individuals, species, and communities may not be possible in some places, and conflicting human ethics may remain irreconcilable. Moral pluralism in America is a fact of life

that cannot, and probably should not, be theoretically unified (Norton 1991). Case-by-case conflicts may have to be settled with this in mind, rather than attempting illogical compromise. After all, ethics are also self-imposed limitations on actions (Leopold 1962 [1949]) for purposes of community—in this case, both human and natural. More ethical behavior by all humans in difficult circumstances should be possible, but compromise in ethical values by different groups may not. Perhaps predominance by one side in one geographical area and by another side in another area is the only possible solution available when ethical standards of two groups differ seriously.

In addition to the emotion, publicity, and political tactics that are the common currency in decision-making, facts and dialogue should be sought by those who have interest in and knowledge about wild animals in particular situations. Legal and societal mandates have been produced by the public, and the responsibilities of those charged with fulfilling the mandates cannot be ignored in a reasonable ethical approach. At some point, advocates of conflicting ethical views must accept good-faith efforts to solve problems and reduce conflicts. A conservation ethic for wild animals may eventually broaden in scope, and opposing groups may ultimately find more middle ground. Until then, reduced posturing and threatening behavior seem in order, to enhance credibility if nothing else.

As the most recent of many groups that claim to "speak for the animals" in the wild, animal rights advocates have a special obligation to become more aware of the ethics of others and more concerned with understanding the broad spectrum of values involved in preserving wild animals (Ehrenfeld 1991). But hunters and fishers, scientists, managers, recreationists, and others need to reappraise the importance of the lives of individual animals. The interests of humans and nature differ only in the short run; long-term human interests coincide with the fullness of life (Norton 1988). As with egoism, the real answer to narrow anthropocentric value systems is to outgrow them (Weston 1992). We can do this by understanding our relationships to the real living world through

meaningful participation in nature. All parties need to work harder to educate themselves and the public about what is really involved in preserving wild animals in their natural environments, now and for the future.

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LITERATURE CITED

- ATKINSON, I. 1989. Introduced animals and extinctions. Pages 54–75 in D. Western and M. C. Pearl, eds. *Conservation for the twenty-first century*. Oxford University Press, New York.
- BERRY, T. 1988. *The dream of the earth*. Sierra Club Books, San Francisco.
- BOWERS, C. A. 1992. The conservative misinterpretation of the educational ecological crisis. *Environ. Ethics* 14:101–127.
- CALLICOTT, J. B. 1986. On the intrinsic value of nonhuman species. Pages 138–172 in B. G. Norton, ed. *The preservation of species*. Princeton University Press, Princeton, New Jersey.
- . 1987. *A companion to sand country almanac*. University of Wisconsin Press, Madison.
- . 1990. Whither conservation ethics? *Conserv. Biol.* 4(1): 15–20.
- CAPTIVE BREEDING SPECIALIST GROUP (INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES). 1992. Population and habitat viability analysis (PHVA): Briefing book core materials. Gland, Switzerland.
- CAUSEY, A. S. 1989. On the morality of hunting. *Environ. Ethics* 11:327–343.
- CLEMENT, R. C. 1986. Beyond the medical treatment of wild animals. *Environ. Ethics* 8:95–96.
- COBB, J. B., JR. 1989. Daniel A. Dom-browski, Hartshorne and the metaphysics of animal rights [book review]. *Environ. Ethics* 11:373–376.
- CUDDIHY, L. W., and C. P. STONE. 1990. Alteration of native Hawaiian vegetation: Effects of humans, their activities and introductions. University of Hawaii Cooperative National Park Resources Studies Unit. University of Hawaii Press, Honolulu.
- DIAMOND, J. 1989. Overview of recent extinctions. Pages 37–41 in D. Western and M. C. Pearl, eds. *Conservation for the twenty-first century*. Oxford University Press, New York.
- EHRENFELD, D. 1991. Conservation and the rights of animals. *Conserv. Biol.* 5(1): 1–3.
- EVERNDEN, N. 1985. *The natural alien: Humankind and environment*. University of Toronto Press, Toronto, Canada.
- GAWLIK, D. E. 1992. Conservation biology and the evolution of a land ethic. *J. Raptor Res.* 26(3): 179–183.
- HAWAII STATE DEPARTMENT OF LAND AND NATURAL RESOURCES, U.S. FISH AND WILDLIFE SERVICE, and THE NATURE CONSERVANCY OF HAWAII. 1991. *Hawaii's extinction crisis: A call to action*. Honolulu.
- HIMES, M. J., and K. R. HIMES. 1991. *The sacrament of creation: toward an environmental theology*. Pages 1–7. *Call to Action*, September. Chicago.
- HOLT, R. A. 1989. Protection of natural habitats. Pages 168–174 in C. P. Stone and D. B. Stone, eds. *Conservation biology in Hawai'i*, University of Hawaii Cooperative National Park Resources Study Unit. University of Hawaii Press, Honolulu.
- KATZ, E. 1987. Searching for intrinsic value: Pragmatism and despair in environmental ethics. *Environ. Ethics* 9:231–241.
- LEOPOLD, A. S. 1962 [1949]. *A sand country almanac: And sketches here and there*. Oxford University Press, New York.
- LITTLE, J. 1992. *Technology's conquest of man*. New Oxford Review, November. Berkeley, California.
- LOFTIN, R. W. 1992. Scientific collecting. *Environ. Ethics* 14:253–264.
- MACQUARRIE, J. 1977. *Principles of Christian*

- theology, 2nd ed. Charles Scribner's Sons, New York.
- MCNEELY, J. A., and K. R. MILLER, EDS. 1984. National parks, conservation, and development: The role of protected areas in sustaining society. Proc. World Congress of National Parks, Bali, Indonesia, 11–22 October 1982. Smithsonian Institution Press, Washington, D.C.
- MOLINE, J. N. 1986. Aldo Leopold and the moral community. *Environ. Ethics* 8:99–120.
- NORTON, B. G. 1986a. Epilogue. Pages 268–283 in B. G. Norton, ed. *The preservation of species: The value of biological diversity*. Princeton University Press, Princeton, New Jersey.
- . 1986b. On the inherent danger of undervaluing species. Pages 110–137 in B. G. Norton, ed. *The preservation of species: The value of biological diversity*. Princeton University Press, Princeton, New Jersey.
- . 1988. The constancy of Leopold's land ethic. *Conserv. Biol.* 2(1): 93–102.
- . 1991. *Toward unity among environmentalists*. Oxford University Press, New York.
- ORTEGA Y GASSET, J. 1985 [1942]. *Meditations on hunting*, Translated by H. B. Wescott. Charles Scribner's Sons, New York.
- ROLSTON, H., III. 1988. *Environmental ethics*. Temple University Press, Philadelphia.
- . 1991. Environmental ethics: Values in and duties to the natural world. Pages 73–96 in F. H. Borman and S. R. Kellert, eds. *Ecology, economics, ethics: The broken circle*. Yale University Press, New Haven.
- SCIENTISTS' CENTER FOR ANIMAL WELFARE. 1988. *Field research guidelines*. Bethesda, Maryland.
- STONE, C. P. 1985. Alien animals in Hawai'i's native ecosystems: Toward controlling the adverse effects of introduced vertebrates. Pages 251–297 in C. P. Stone and J. M. Scott, eds. *Hawai'i's terrestrial ecosystems: Preservation and management*. University of Hawaii Cooperative National Park Resources Studies Unit. University of Hawaii Press, Honolulu.
- . 1992a. Environmental education in Hawai'i: History and overview. Pages 799–806 in C. P. Stone, C. W. Smith, and J. T. Tunison, eds. *Alien plant invasions in native ecosystems of Hawaii: Management and research*. University of Hawaii Cooperative National Park Resources Studies Unit. University of Hawaii Press, Honolulu.
- . 1992b. Humane natural area management in Hawai'i. *The George Wright Forum* 9(1): 32–35.
- . 1992c. In defense of da fence. *Hawai'i's Forests and Wildlife* 7(3): 9, 15.
- STONE, C. P., and S. J. ANDERSON. 1988. Introduced animals in Hawai'i's natural areas. *Proc. Vertebr. Pest Conf.* 13:134–140.
- TAYLOR, P. W. 1986. *Respect for nature: A theory of environmental ethics*. Princeton University Press, Princeton, New Jersey.
- TEMPLE, S. A. 1990. The nasty necessity: Eradicating exotics. *Conserv. Biol.* 4(2): 113–115.
- THOMAS, O. C. 1983. *Introduction to theology*, rev. ed. Morehouse Publishing, Wilton, Connecticut.
- VARNER, G. E. 1987. Do species have standing. *Environ. Ethics* 9:57–72.
- VITALI, T. 1990. Sport hunting: Moral or immoral. *Environ. Ethics* 12:69–82.
- WESTON, A. 1985. Beyond intrinsic value: Pragmatism in environmental ethics. *Environ. Ethics* 7:321–339.
- . 1992. Bryan G. Norton, *Toward unity among environmentalists* [book review]. *Environ. Ethics* 14:283–287.